

**U.S. Department of Energy - Energy Efficiency and Renewable Energy
EERE News**

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IT Companies and Organizations Tackle Data Center Energy Use

Many of the leading information technology (IT) companies have recently teamed up with federal agencies and non-profit organizations with the goal of reducing energy use in data centers. Data centers are the workhorses of the Internet, delivering information (such as this story) through Web and email servers to users of personal computers around the world. Data centers can also consume about 100 times more electricity than standard office buildings. To help address the problem, AMD, HP, Sun Microsystems, and IBM have founded The Green Grid, a global organization to reduce data center energy use by defining best practices in data center design, construction, and operation. The companies will work closely with the Alliance to Save Energy and the U.S. Environmental Protection Agency to advance the new organization's goals. See the Green Grid press release ([PDF 44 KB](#)) and [Web site](#). [Download Adobe Reader](#).

In late June, DOE's Lawrence Berkeley National Laboratory (LBNL) announced a separate partnership with Sun Microsystems, Intel, Cisco, and others to power data centers using direct current (DC) instead of the traditional alternating current (AC). While power companies deliver AC power to our homes and businesses, DC power is more commonly associated with batteries. But many electronic components actually run on DC power, which means that they require power adapters to convert the AC power to DC, a process that uses energy and creates heat. With funding from the California Energy Commission, LBNL and the IT companies have built a demonstration facility in Newark, California, that runs entirely on DC power. The participants hope to confirm an energy savings of 10 to 20 percent and improved reliability compared to today's AC-powered data centers. See the [LBNL press release](#).

Carnegie Mellon University is taking a unique approach to the study of data center energy efficiency. The university has built a new facility that will be a functioning data center while also serving as a test bed for automation and energy efficiency. The 2,000-square-foot Data Center Observatory has the ability to support 40 racks of computers, which could consume up to 774 kilowatts of power. See the [Carnegie Mellon press release](#).

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